

Appl. No. 09/617,232
Amended July 10, 2004
Reply to Office action of May 20, 2004

In the Claims:

1-3 (cancelled)

4. (previously amended) A method for changing a reserved capacity for a given tunnel, comprising:

receiving an indication of traffic demand for a tunnel through a network;

based on said received indication, determining an estimated total capacity requirement;

comparing said estimated total capacity requirement to said reserved capacity;

where said estimated total capacity requirement exceeds said reserved capacity, requesting an increase of said reserved capacity;

determining whether a current path of said tunnel has sufficient available capacity to accommodate said estimated total capacity requirement, said current path having a source node and a destination node;

where said current path of said tunnel has sufficient available capacity to accommodate said increase, transmitting signaling to nodes along said current path to request said increase of said reserved capacity;

where said current path of said tunnel has insufficient available capacity to accommodate said increase, determining a plurality of paths through said network from said source node to said destination node, where each path of said plurality of paths has an associated available capacity; and

selecting one path of said plurality of paths having sufficient associated available capacity to accommodate said estimated total capacity requirement.

5. (original) The method of claim 4 further comprising:

transmitting signaling to nodes along said selected one path of said plurality of paths

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to request said estimated total capacity requirement; and

moving said tunnel to said selected one of said plurality of paths.

6. (previously amended) A method for changing a reserved capacity for a given tunnel, comprising,

receiving an indication of traffic demand for a tunnel through a network;

based on said received indication, determining an estimated total capacity requirement;

comparing said estimated total capacity requirement to said reserved capacity;

where said estimated total capacity requirement exceeds said reserved capacity,
requesting an increase of said reserved capacity;

determining whether a current path of said tunnel has sufficient available capacity to
accommodate said estimated total capacity requirement, said current path having a
source node and a destination node;

where said current path of said tunnel has sufficient available capacity to
accommodate said increase, transmitting signaling to nodes along said current path to
request said increase of said reserved capacity;

where said current path of said tunnel has insufficient available capacity to
accommodate said increase, determining a plurality of paths through said network
from said source node to said destination node, where each path of said plurality of
paths has an associated available capacity;

where said estimated total capacity requirement exceeds said associated available
capacity of each of said plurality of paths, determining a limiting link in said current
path, where said limiting link has a minimum available capacity among links in said
current path; and

communicating with a lower level network to request an increase of available capacity
on said limiting link.

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7. (original) The method of claim 6 further comprising,

where said request to said lower level network is accepted;

transmitting signaling to nodes along said current path to request said increase of said reserved capacity to said estimated total capacity requirement.

8. (original) The method of claim 6 further comprising,

where said lower level network returns an available capacity of said limiting link and where said estimated total capacity requirement exceeds said available capacity of said limiting link,

selecting one path of said plurality of paths having a maximum associated available capacity among said plurality of paths;

where said available capacity of said limiting link exceeds said associated available capacity of said selected one path of said plurality of paths:

transmitting signaling to nodes along said current path to request that said reserved capacity be increased to said available capacity of said limiting link.

9. (original) The method of claim 6 further comprising,

where said lower level network returns an available capacity of said limiting link and where said estimated total capacity requirement exceeds said available capacity of said limiting link,

selecting one path of said plurality of paths having a maximum associated available capacity among said plurality of paths;

where said available capacity associated with said selected one path of said plurality of paths exceeds said available capacity of said limiting link:

transmitting signaling to nodes along said selected one of said plurality of paths to request said estimated total capacity requirement; and

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moving said tunnel to said selected one of said plurality of paths.

10. (original) The method of claim 6 further comprising, where said request to said lower level network is rejected:

selecting one path of said plurality of paths having a maximum associated available capacity among said plurality of paths;

transmitting signaling to nodes along said selected one of said plurality of paths to request said associated available capacity; and

moving said tunnel to said selected one of said plurality of paths.

11. (currently amended) The method of claim 4 wherein said receiving said indication of traffic demand comprises:

receiving an indication of tunnel capacity in use by serviced requests; and

receiving an indication of tunnel capacity refused admission to the tunnel.

12. (currently amended) The method of claim 4 wherein said requested increase of said reserved capacity comprises a difference between said reserved capacity and said estimated total capacity requirement.

13. (currently amended) The method of claim 4 wherein said requested increase of said reserved capacity comprises a difference between said reserved capacity and a sum of said estimated total capacity requirement and a buffer value.

14-19 (cancelled)

20. (currently amended) The A system for automated adjustment of claim 18 wherein a reserved capacity for a tunnel, said tunnel associated with a current path through a network, where along said current path are nodes and said current path has a source node and a destination node, said system further comprising:

a tunnel signaler operable to transmit a capacity increase request to said nodes along said current path, said capacity increase request indicating a requested increase of said

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reserved capacity;

an admission controller;

a capacity manager operable to:

receive, from said admission controller, an indication of traffic demand for said tunnel;

determine an estimated total capacity requirement based on said received indication;

compare said estimated total capacity requirement to said reserved capacity;
and

responsive to determining, through said comparing, that said estimated total capacity requirement exceeds said reserved capacity, instruct said tunnel signaler to transmit said capacity increase request; and

a path selector operable to:

determine a plurality of paths through said network from said source node to said destination node, where each path of said plurality of paths has an associated available capacity; and

select one path of said plurality of paths having sufficient associated available capacity to accommodate said estimated total capacity requirement.